

Claim 7. (Previously Presented) An apparatus as claimed in claim 6, further comprising a gas material supply valve that controls a flow rate of said raw material in gas phase from said tank to said reaction vessel.

Claim 8. (Previously Presented) An apparatus as claimed in claim 6, further comprising a filter provided between said tank and said gas material supply valve that filters said raw material in the gas phase supplied to said reaction vessel through said gas material supply valve, in order to prevent clogs from being generated in the gas material supply valve.

Claim 9. (Original) An apparatus as claimed in claim 8, wherein said filter is formed by a membrane that has a transmitting hole for filtering said raw material in gas phase.

Claim 10. (Original) An apparatus as claimed in claim 9, wherein a diameter of said transmitting hole is substantially from 0.1 μm to 100 μm .

Claim 11. (Original) An apparatus as claimed in claim 9, wherein said membrane is made of a politetrafluoroethylene.

Claim 12. (Original) An apparatus as claimed in claim 9, wherein said membrane is made of a stainless sinter.

Claim 13. (Original) An apparatus as claimed in claim 9, wherein said membrane is made of a stainless fiber.

Claim 14. (Original) An apparatus as claimed in claim 9, wherein said membrane is made of a ceramic fiber.

Claim 15. (Original) An apparatus as claimed in claim 9, wherein said filter has a plurality of layers of said membranes.

Claim 16. (Original) An apparatus as claimed in claim 6, wherein said reaction vessel has a cooling unit which cools said reaction vessel, and said cooling unit circulates cooling water which contains an anticorrosive chemical inside said cooling unit.

Claim 17. (Original) An apparatus as claimed in claim 16, wherein said anticorrosive chemical includes polycarboxylic acid nitrite.

Claim 18. (Original) An apparatus as claimed in claim 17, wherein said cooling water contains said polycarboxylic acid nitrite at a concentration from 1 ppm to 10 ppm.

Claim 19. (Original) An apparatus as claimed in claim 15, wherein said anticorrosive chemical further includes inorganic nitride.

Claim 20. (Original) An apparatus as claimed in claim 19, wherein said cooling water contains each of said polycarboxylic acid nitrite and inorganic nitride at a concentration from 1 ppm to 10 ppm.

Claim 21. (Original) An apparatus as claimed in claim 16, wherein a temperature of said cooling water is substantially from 40°C to 90°C.

Claim 22. (Original) An apparatus as claimed in claim 21, wherein said temperature of said cooling water is substantially from 50°C to 80°C.

Claim 23. (Original) An apparatus as claimed in claim 16, wherein said cooling water contains an antiblastic agent that suppresses an increase of bacteria.

Claim 24. (Currently Amended) A method for manufacturing a glass base material and maintaining the purity of a raw material, comprising:

providing a raw material of said glass base material,

heating said raw material to vaporize said raw material and generate a raw material in the gas phase,

supplying a carrier gas to reduce the partial pressure of said raw material in the gas phase to vaporize said raw material,

controlling a temperature of said raw material to be constant by means of a temperature control unit consisting essentially of a temperature control circuit, at least one heat source, and at least one temperature sensor by adjusting said heating of said raw material, and

controlling said partial pressure of said raw material to be constant by means of a pressure control unit consisting essentially of at least one carrier gas control valve, at least one carrier gas supply unit, a pressure control circuit, and at least one pressure sensor by adjusting said supply of said carrier gas.

Claim 25. (Original) A method as claimed in claim 24, further comprising; supplying and hydrolyzing said raw material in gas phase to form said glass base material.

Claim 26. (Previously Presented) A method as claimed in claim 25, further comprising; filtering said raw material in the gas phase and supplying and hydrolyzing the filtered raw material in the gas phase.

Claim 27. (Previously Presented) A method as claimed in claim 25, further comprising; controlling a flow rate of said raw material in the gas phase and supplying and hydrolyzing said flow rate controlled raw material in the gas phase.

Claim 28. (Previously Presented) A method as claimed in claim 25, wherein said supplying and hydrolyzing of said raw material occurs in a reaction vessel; and

said hydrolyzing includes cooling said reaction vessel by circulating cooling water around said reaction vessel.

Claim 29. (Previously Presented) A method as claimed in claim 28, wherein said cooling water contains anticorrosive chemicals.

Claim 30. (Original) A method as claimed in claim 29, wherein said anticorrosive chemicals include polycarboxylic acid nitrite.

Claim 31. (Original) A method as claimed in claim 30, wherein said cooling water contains said polycarboxylic acid nitrite at a concentration substantially from 1 ppm to 10 ppm.

Claim 32. (Original) A method as claimed in claim 29, wherein said anticorrosive chemical further includes inorganic nitride.

Claim 33. (Previously Presented) A method as claimed in claim 32, wherein said cooling water contains inorganic nitride at a concentration substantially from 1 ppm to 10 ppm.

Claim 34. (Original) A method as claimed in claim 29, wherein said cooling regulates a temperature of said cooling water substantially from 40°C to 90°C.

Claim 35. (Original) A method as claimed in claim 34, wherein said cooling regulates said temperature of said cooling water substantially from 50°C to 80°C.

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Claim 36. (Original) A method as claimed in claim 29, wherein said cooling water contains an antiblastic agent that suppresses an increase of bacteria in said cooling water.